

and

a step of bonding the substrate to a carrier.

34. (New) The method of Claim 33, wherein said substrate is selected from the group consisting of wood, concrete, a ceramic tile, and a metal substrate.

35. (New) A substrate, coated with an aqueous composition as claimed in Claim 9.

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#### **BASIS FOR THE AMENDMENT**

Claims 1-8 have been canceled. Claims 9-36 have been added.

New Claim 9 is supported at page 5, lines 40-43 of the specification and by Claim 1 as originally filed.

New Claim 10 is supported at page 2, lines 37-40 of the specification.

New Claim 11 is supported at page 2, lines 37-40 of the specification.

New Claim 12 is supported by Claim 2 as originally filed.

New Claim 13 is supported at page 2, lines 21 and 22 of the specification.

New Claim 14 is supported at page 2, lines 31-35 of the specification.

New Claim 15 is supported at page 3, lines 28-33 of the specification.

New Claim 16 is supported at page 3, line 25 of the specification.

New Claim 17 is supported at page 3, line 26 of the specification.

New Claim 18 is supported at page 3, lines 26 and 27 of the specification.

New Claim 19 is supported at page 4, lines 1-4 of the specification.

New Claim 20 is supported by Claim 3 as originally filed.

New Claim 21 is supported by Claim 4 as originally filed.

New Claim 22 is supported by Claim 5 as originally filed.

New Claim 23 is supported at page 3, lines 37-40 of the specification.

New Claim 24 is supported at page 3, lines 37-40 of the specification.

New Claim 25 is supported at page 3, lines 37-40 of the specification.

New Claim 26 is supported at page 5, line 45 to page 6, line 1 of the specification.

New Claim 27 is supported at page 7, lines 29-35 of the specification and by Claim 6 as originally filed.

New Claim 28 is supported at page 7, lines 29-35 of the specification.

New Claim 29 is supported by Claim 6 as originally filed and at page 7, lines 26 and 37-39 of the specification.

New Claim 30 is supported at page 7, lines 29-35 of the specification.

New Claim 31 is supported by Claim 7 as originally filed and at page 7, lines 26 and 37-39 of the specification.

New Claim 32 is supported at page 7, lines 34-35 of the specification.

New Claim 33 is supported by Claim 7 as originally filed and at page 7, lines 26 and 37-39 of the specification.

New Claim 34 is supported at page 7, lines 34-35 of the specification.

New Claim 35 is supported by Claim 8 as originally filed.

No new matter is believed to have been added by entry of this amendment. Entry and favorable reconsideration are respectfully requested.

Upon entry of this amendment Claims 9-35 will now be active in this application.

### **REQUEST FOR RECONSIDERATION**

Applicants respectfully request reconsideration of the application, as amended, in view of the following remarks. The subject matter of Claims 1-8 is now pursued in Claims 9, 12, 20, 21, 22, 27, 29, 31, 33 and 35.

The present invention as set forth in Claim 9 relates to an aqueous composition, comprising:

A) 10 to 50% by weight of a polymer having a gel content of less than 40% by weight and a number-average molecular weight,  $M_n$ , of a soluble fraction of less than 30,000; and

wherein said polymer comprises from 60 to 100% by weight of a  $C_1$ - to  $C_{20}$ -alkyl (meth)acrylate or mixture of at least two  $C_1$ - to  $C_{20}$ -alkyl (meth)acrylates, based on a total weight of said polymer; and

B) 50 to 90% by weight of a filler;

wherein the amount of said polymer and the amount of said filler are based on the weight sum of the polymer and of the filler; and

wherein said filler is selected from the group consisting of a chalk having an average particle diameter of from 2 to 50  $\mu m$ , a quartz flour having an average particle diameter of from 3 to 50  $\mu m$  and a combination thereof.

The rejection of Claims 1-3, 5-6 and 8 under 35 U.S.C. §102(b) over Columbus et al, is respectfully traversed. As recognized by the Examiner, this reference does not disclose the gel content or the number average molecular weight of the soluble fraction of the polymer.

Columbus et al disclose a cove base cement composition having 20 to 40% of acrylic resin, 40 to 60% of calcium carbonate filler, 5 to 15% clay filler and water in an amount to achieve a viscosity of 150,000 to 600,000 cps at 25°C (Columbus et al, abstract, col. 1, lines 19-26). The Examiner argues that the gel content and the number average molecular weight,  $M_n$ , of the soluble fraction of the polymer are inherent based on the used monomers.

However, the process of polymer formation is governed by random events that are influenced, for example, by the polymerization conditions. The result is that the chains vary in length. The same monomer may be polymerized to polymer chains of very different

length that are present in very different amounts. The number average molecular weight refers to the sum of all molecular weights of the individual molecules having different chain length divided by their total number. Just based on the monomer used one skilled in the art can not calculate the value of Mn of the resulting polymer. The value of Mn of the soluble fraction is clearly not inherent. Similarly, as the distribution of the chain length and the amounts in which different polymer chains are present varies, so does the gel content. There is nothing in Columbus et al that suggests that the acrylate resin has the required gel content of less than 40% or the required number average molecular weight of the soluble fraction less than 30,000.

Furthermore, a comparison of the Examples of the present invention with the cove base cement of Columbus et al shows that the cement of the reference cannot have the required gel content of less than 40% by weight. The cement of Columbus et al remains tacky for about 10 minutes, during which it can still be pulled away from a wall (Columbus et al, col. 3, lines 43-54).

However, the claimed aqueous composition quickly develops a high wet bonding capacity as shown in Table 3 on page 10 of the specification. Table 3 has been reproduced below. The tested dispersions have the following gel contents: Comparison example 1: 54%; Comparison example 2: 70%; Comparison example 3: 68%; Example 4: 15%.

The wet bonding capacity of Example 4, having the required gel content, is already high after 10 min, when a value of 12 N/5 cm is achieved. The wet bonding capacity of the Comparison Examples, however, is only in the order of 2-4 N/5 cm after 10 minutes. Accordingly, a dispersion with a gel content higher than 40% remains tacky for 10 minutes, just like the cement of Columbus et al. Thus, the cement of Columbus et al has a higher gel content than required by the present invention.

Furthermore, the wet bonding capacity of Example 4, having the required gel content of less than 40%, quickly increases and reaches a value of 49 N/5cm after 30 min. In contrast, the values of the Comparison Examples, having gel contents outside the scope of the present invention, increase only slowly and reach only low values of 8-34 after 30 min.

Table 3

	Peel values		WBC N/5 cm			
	N/mm		10 min	15 min	20 min	30 min
	10 min	30 min				
1 (for comparison)	0.34	0.24	4	7	9	8
2 (for comparison)	0.91	0.07	2	5	11	22
3 (for comparison)	1.38	0.18	4	10	19	34
4 (according to invention)	1.22	0.24	12	26	44	49

Accordingly, the rejection of Claims 1-3, 5-6 and 8 under 35 U.S.C. §102(b) over Columbus et al is believed to be unsustainable as the present invention is neither anticipated nor obvious and withdrawal of this rejection is respectfully requested.

In addition, the rejection of Claims 1-8 under 35 U.S.C. §102(b) over Schwerzel et al is respectfully traversed. Again, as recognized by the Examiner, this reference does not disclose the gel content or the number average molecular weight of the soluble fraction of the polymer.

Schwerzel et al disclose an aqueous acrylate latex, 30 to 150% by weight of a mixture of 50 to 90% of a tackifying resin and 5 to 50% of a substituted polyalkyleneoxide (Schwerzel et al, col. 1, lines 5-19). Very different number average molecular weights may

be obtained depending on the polymerization conditions as pointed out above. However, there is nothing in Schwerzel et al that suggests that the disclosed acrylate resin has the required gel content of less than 40% or the required number average molecular weight of the soluble fraction of less than 30,000.

Therefore, the rejection of Claims 1-8 under 35 U.S.C. §102(b) over Schwerzel et al is believed to be unsustainable as the present invention is neither anticipated nor obvious and withdrawal of this rejection is respectfully requested.

The rejection of Claim 4 under 35 U.S.C. §103(a) over Columbus et al is respectfully traversed. The subject matter of original Claim 4 is now pursued in Claim 21.

There is no disclosure, suggestion or motivation in Columbus et al to use the claimed amount of less than 0.5 wt.% of volatile organic solvent. All that Columbus et al disclose is an amount of 0.74 wt.% of propylene glycol in a formulation of the cove base cement. (Columbus et al, col. 4, line 3). It is not obvious to use less than 0.5% of volatile organic solvent based on the teaching of this reference.

In addition, as stated above, Columbus et al fails to teach or suggest the gel content or the number average molecular weight of the soluble fraction of the polymer as required by independent Claim 9 from which Claim 21 depends.

The rejection of Claim 4 under 35 U.S.C. §103(a) over Columbus et al is believed to be unsustainable as the present invention is neither anticipated nor obvious and withdrawal of this rejection is respectfully requested.

The rejection of Claims 1-4 and 6-8 under 35 U.S.C. §103(a) over Kawashima et al is respectfully traversed. This reference does not disclose or suggest the claimed fillers and their particle size.

Kawashima et al disclose an aqueous coating composition having a hollow polymer

particle having at least two polymer layers and inter alia a filler (Kawashima et al, col. 4, line 65 to col. 5, line 5; col. 22, line 40). However, there is no disclosure or suggestion of a filler selected from the group consisting of a chalk having an average particle diameter of from 2 to 50  $\mu\text{m}$ , a quartz flour having an average particle diameter of from 3 to 50  $\mu\text{m}$  and a combination thereof.

Thus, the rejection of Claims 1-4 and 6-8 under 35 U.S.C. §103(a) over Kawashima et al is believed to be unsustainable as the present invention is neither anticipated nor obvious and withdrawal of this rejection is respectfully requested.

The rejection of Claims 1-2, 4 and 6-8 under 35 U.S.C. §103(a) over Tsuruoka et al is respectfully traversed. This reference does not disclose or suggest the claimed fillers and their particle size.

Tsuruoka et al disclose a coating composition having a copolymer latex having a gel content of 10-98 wt.% obtained by emulsion polymerization of 20-65% of a conjugated diene, 0.1-10% of a combination of an ethylenically unsaturated monocarboxylic acid and an ethylenically unsaturated dicarboxylic acid, 33-79.5% of another ethylenically unsaturated compound, in the presence of 0.1 to 10 parts by wt. of an  $\alpha$ -methylstyrene dimer (Tsuruoka et al, abstract). However, there is no disclosure or suggestion of a filler selected from the group consisting of a chalk having an average particle diameter of from 2 to 50  $\mu\text{m}$ , a quartz flour having an average particle diameter of from 3 to 50  $\mu\text{m}$  and a combination thereof.

Therefore, the rejection of Claims 1-2, 4 and 6-8 under 35 U.S.C. §103(a) over Tsuruoka et al is believed to be unsustainable as the present invention is neither anticipated nor obvious and withdrawal of this rejection is respectfully requested.

The rejection of Claims 1-8 under 35 U.S.C. §103(a) over Lofgren in view of Su is respectfully traversed. These references do not disclose or suggest the claimed number

average molecular weight of the soluble fraction of less than 30,000 or the claimed fillers and their particle size.

Lofgren discloses an adhesive composition comprising an aqueous dispersion of a film forming resin and inter alia a filler (Lofgren, abstract, col. 3, lines 13, 14 and 52). This reference does not disclose the required gel content of less than 40% or the required number average molecular weight of the soluble fraction of less than 30,000 or the filler selected from the group consisting of a chalk having an average particle diameter of from 2 to 50  $\mu\text{m}$ , a quartz flour having an average particle diameter of from 3 to 50  $\mu\text{m}$  and a combination thereof.

To cure the defects of the primary reference, the Examiner cites Su. However, this reference fails to disclose or suggest the required number average molecular weight of the soluble fraction of less than 30,000 or the filler selected from the group consisting of a chalk having an average particle diameter of from 2 to 50  $\mu\text{m}$ , a quartz flour having an average particle diameter of from 3 to 50  $\mu\text{m}$  and a combination thereof. All that Su discloses are acrylic polymers prepared by emulsion polymerization and having a gel content of 16% (Su, col. 3, lines 10-21; col. 6, lines 36 and 37).

Therefore, the rejection of Claims 1-8 under 35 U.S.C. §103(a) over Lofgren in view of Su is believed to be unsustainable as the present invention is neither anticipated nor obvious and withdrawal of this rejection is respectfully requested.

The rejection of Claims 6 and 7 under 35 U.S.C. §112, second paragraph, is obviated by Claims 27, 29, 31 and 33.

The rejection of Claims 6 and 7 under 35 U.S.C. §101, is obviated by Claims 27, 29, 31 and 33.

In regard to the Examiner's request to point out the inventor and invention dates of



each claim that was not commonly owned at the time a later invention was made, Applicants confirm that all claims were and are commonly owned.

Applicants respectfully request the Examiner to acknowledge on the record that the references cited in the International Search Report, filed in the above-identified application on July, 20, 2000 have been considered. A first request for consideration was filed with the above-identified application on July 20, 2000. No statement regarding the consideration of the references cited in the International Search Report was provided in the first Office Action, of March 1, 2001.

The MPEP states as follows:

"The examiner will consider the documents cited in the international search report in a PCT national stage application when the Form PCT/DO/EO/903 indicates that both the international search report and the copies of the documents are present in the national stage file. In such a case, the examiner should consider the documents from the international search report and indicate by a statement in the first Office action that the information has been considered. "

MPEP §609

The Office has acknowledged receipt of the International Search Report and the Copies of the cited references on Form PCT/DO/EO/903. Accordingly, Applicants respectfully request the Office to acknowledge consideration of the above references.

Applicants submit that the present application is now in condition for allowance and early notice of such action is earnestly solicited.

Respectfully submitted,

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**IN THE CLAIMS**

Claims 1-8 (Deleted).

Claims 9-35 (New).